18. Describe the steps involved in shell scripting with a sample script.

19. Explain inter-process communication using pipes with a neat diagram.

20. Compare exec(), fork(), and wait() system calls with suitable examples.

APRIL/MAY 2025

GCA32/DCA32 — UNIX AND SHELL PROGRAMMING

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define Unix System Organization.

2. What are the different types of shells in Unix?

3. Define vi Editor.

4. What is the function of the nohup command?

5. Define shell variables.

6. What is the use of the shift command in shell scripting?

7. Define loop control structure.

8. What are the different process-related system calls?

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9. Define inter-process communication.

10. What is the difference between exec() and fork()?

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Explain the structure of the Unix File System.

Or

(b) Discuss the role of the Super Block and Inode Table in Unix.

12. (a) Explain the nohup command with an example.

Or

(b) Describe the process of Unix communication using write and wall commands.

13. (a) Explain the role of positional parameters in shell scripting.

Or

(b) Discuss arithmetic operations in shell scripting with examples.

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14. (a) Explain the usage of while loops in shell scripting.

Or

(b) Describe the break and continue statements in shell programming.

15. (a) Explain the open() and read() system calls in Unix.

Or

(b) How does the signal() system call work? Explain with an example.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Compare and contrast Unix File System and Windows File System.

17. Explain process scheduling and priority management in Unix.